



TECH PULSE

Spectroscopy Tech Pulse is a special edition newsletter from Photonics Media covering key developments in spectroscopy technology. Manage your Photonics Media membership at Photonics.com/subscribe.



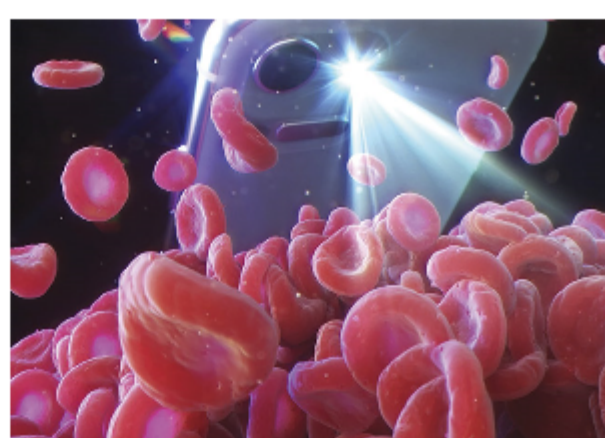
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A podcast from Photonics Media



Mobile Spectroscopy Enables Noninvasive Blood Hemoglobin Assessments

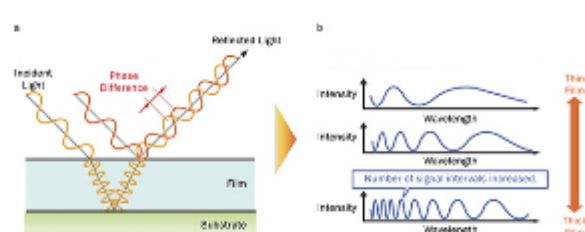
Several technologies are currently being developed to noninvasively measure blood hemoglobin levels and anemia. Researchers at Purdue University recently introduced a data-driven, less hardware-dependent method to incorporate optical reflectance spectroscopy into mobile health technologies. The technique allows for noninvasively quantifying blood hemoglobin content from the inner eyelid, using an unmodified smartphone.



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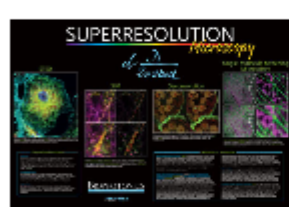
Emerging Applications Signal New Opportunities for Spectroscopy

Faster, smaller spectroscopy instruments are probing the boundaries of conventional applications to expand and explore new end markets.



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Featured Products

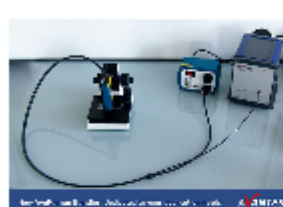


[Superresolution Microscopy Poster](#)

Photonics Media
With interest in the superresolution microscopy field growing rapidly, the editors of BioPhotonics magazine — in collaboration with acknowledged experts — created a poster with readers in mind that is suitable for lab, classroom and office. It features visually stunning, high-resolution images...

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More News

Packing Light: Spectroscopy Goes Mobile

Portable designs are carrying spectroscopy beyond the lab to deliver analytical capabilities directly to the sample in applications from forensics to cultural heritage.

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Spectroscopy Guides Precision Medicine

Raman spectroscopy captures the effect when light partially scatters inelastically as it interacts with matter. The amounts of energy transferred between photons and molecules during this process correspond to specific molecular vibrations. Therefore, Raman spectroscopy is ideally suited for characterizing and identifying the chemical composition of various samples because the spectra provide a molecular "fingerprint."

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Infrared Spectroscopy Technique Unveils Insights into Planet Formation

Planetary scientists at Brown University have introduced an infrared spectroscopic method for studying olivine, a mineral that provides insights into the formation of the moon, Mars, and other planetary bodies. Informally dubbed "crossover spectroscopy," the scientists deployed the technique to examine the spectral range in between the visible near-infrared (0.5 to 3 μm) and the mid-infrared ranges (8 to 15 μm).

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Multipass Spectroscopy Seeks Disease Biomarkers in Breath

An optical sensing method developed by a research team at the University of Warsaw relies on highly sensitive spectroscopic measurements to detect the presence or absence of formaldehyde in a person's breath.

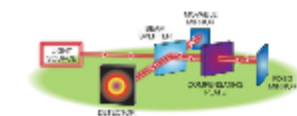
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Upcoming Webinars

Fourier Transform Infrared (FTIR) Spectrometer: Theory, Practice, and Applications

Wed, Feb 10, 2021 1:00 PM - 2:00 PM EST

This webinar with John D. Gilmore and Slawomir Piatek, Ph.D., of Hamamatsu will review the basic theory behind a Michelson-Morley interferometer, and will apply it directly to today's modern MEMS-based FTIR engines. The presenters will compare traditional grating-based spectrometers with FTIR, and the associated technological limitations, such spectral coverage, signal to noise ratio and noise induced by mechanical vibration. Participants will receive a live MEMS FTIR product demonstration and will learn about FTIR applications and some market challenges and solutions. Presented by



Hamamatsu Corporation.

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